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ABSTRACT

This paper describes: (1) the experiences of a class of 6- and 7-year-old students as they designed and built a small farm on the Laboratory School grounds at Berry College (Georgia); (2) the understanding that comes with the relevant and meaningful experience of building a farm and raising animals; (3) the infusion of Friedrich Froebel's "Kindergarten" into each component of the curriculum; and (4) a model for active parent involvement. The Laboratory School is modeled after the British primary school and provides an open-education laboratory to children. Primary emphasis at the school is on learning basic curriculum through inquiry and sensory-motor experience. Independent thinking and collaborative problem solving skills are fostered. Development of an appreciation for self, others, and learning is central to the school's mission. The curricular ripple effect of this project and the integration of subject matter around a central focus is detailed, and an expansion into science, language arts, mathematics, social studies, the arts, and beyond is demonstrated. (LL)

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Chickens Across the Curriculum: An Experiment in Experiential Learning

By: Kristin Poulsen, Steven Bell, and Jonelle Pool

"Look! Look! It's an egg! I got it from under the chicken! It's an egg! What can I do with it?"

Children, aged 5 - 10, greeted me with these words every morning. The wonder and excitement was the same. Eggs really do come from chickens and not the grocery store! While educators have taught that concept to children since they were old enough to listen, understanding comes with relevant and meaningful experience--the experience of building a "farm" and raising the animals themselves.

The purpose of this paper is to describe experiences of a class of six and seven year old students as they designed and built a small farm on the Laboratory School grounds at Berry College. At another level this paper discusses infusion of Froebel's (1912) Kindergarten into each component of the curriculum, for the farm project provided impetus for curriculum applications in science, social studies and the arts.

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This project also provides a model for active parent involvement. One student's father, a faculty member at Berry, played a key role in the planning and construction of the farm. Known as Mr. Fixit, he was always willing to help the children build or fix anything. He taught tool names and sequence of skills in any project attempted.

Berry Laboratory School (K-5) is modeled after the British primary school and provides an open-education laboratory to children. Primary emphasis at the school is on learning basic curriculum through inquiry and sensory-motor experience. Independent thinking and collaborative problem solving skills are fostered. Development of an appreciation for self, others, and learning is central to the school's mission.

The idea of a farm with animals at school was exciting! The task was to use this idea and apply it to the skill levels of young children. The first step was to decide where to build the farm. The children, Mr. Fixit, and I discussed the size of the farm, shade for the animals, drainage, and availability of fresh water. We decided on a spot behind the school, well shaded by dogwoods and pines. It was a moderately slanted area of land near an outdoor spigot for water. With Mr. Fixit we discussed our plans and inspected the proposed location.

The children formed the four sides with their bodies to show him their decision regarding the barnyard's dimensions. Mr. Fixit discussed with the children how many posts would be needed for the fencing and made arrangements to have the holes dug by college employees with a tractor and auger. Split cedar posts were donated by the college physical plant.

Finally the day came for the holes to be dug. The children watched eagerly as the first hole was drilled. Each hole was about three feet deep. Some of the children watched intently as each hole was started and finished. Others wandered off to a nearby playground. To the pre-concrete operational mind, it was not yet real.

After the posts were delivered, Mr. Fixit returned to help secure each post in its hole. He assigned children as either post holders or hole fillers. Post holders were assigned to a post and were to hold it vertically in the hole, as hole fillers ran about filling bags with small rocks and stones which were poured into spaces around the posts. Some children became "tampers", using sticks to tamp down the stones closely around the posts. It took us about an hour to secure all 15 posts in the ground.

Team work was a key concept in completing the barnyard's construction. Post holders called to hole fillers when they needed more stone or tamping. Hole fillers ran from hole to hole filling them and hurrying back for a fresh supply of stones. Each of the 22 first graders were focused on the task and became part of a cooperative team that morning.

The next step was to decide on how many feet of fencing was necessary to surround the animal pen with one interior fence wall, a mathematical task solved by Mr. Fixit and the children. Money for the fencing came from the supply fee fund collected from parents for consumable items from our classroom. Mr. Fixit purchased and transported the fencing from a local feed store, along with heavy metal staples.

On his next visit, Mr. Fixit assigned two children to each

post. As two adults unrolled the fencing from post to post, Mr. Fixit lightly hammered one staple to each post, securing the fencing as it was unrolled. Each post team of two children shared one hammer. They took turns hammering the staple completely into the post. When they finished, an adult would lightly hammer another staple into the wood, securing more of the wire fencing. The team would alternately hammer, until each post had five to six staples fastening the wire in an upright position.

Using old wooden pallets, Mr. Fixit erected a three-sided shelter inside the area for the animals. Those children who were eager to continue hammering used small tacks to attach a very old plastic sheet to the roof of the shed to keep out rain.

At this point, we had a rectangular fenced area divided into two sections by one wire fence. The smaller section with the wooden shed inside, was to be used for night housing for the animals. A gate separating the two areas was installed to allow the animals to go into the second larger section during the day. Another gate was attached as a main entrance to the entire farm.

In order to keep predators out of the night-time area, Mr. Fixit suggested that the children weave a roof with string, providing for another cooperative team effort. The children went out in groups of four or five. The first group attached warp strings through the farthest sides of the night area. Subsequent teams wove strings over and under the warp strings. This job took about a week, with children working in thirty minute time blocks, until we felt we had a strong enough roof to deter owls or cats.

It was a time for celebration when the first animals arrived. Because we live in a small town/rural community, donations of

livestock were easy to obtain. We started with one rabbit and four chickens. However, problem solving began in earnest when the chickens immediately flew up through our woven roof and roosted in the trees! The children decided to leave trails of chicken feed around the farm leading to the open gate. At that point, I clipped the feathers on their wings to prevent further escapes. Our plan was to let each of the school's children (in groups of three), be the "farmers" on a rotating basis. They would feed and water the animals, gather eggs, and solve any problems which might be encountered.

The next morning the first group of farmers discovered a decapitated chicken inside the "safe" night area for the animals. The children decided to bury the chicken. A class meeting was held to discuss what went wrong and possible solutions. The decision was made to cover the night area with chicken wire and fasten it to the top edges of the fencing with short pieces of wire.

Again Mr. Fixit went to the feed store, bought wire, and assigned jobs to the children. Some helped unroll the chicken wire, while others helped wrap wire pieces around fence corners. This process took about an hour to complete, with the more enthusiastic children finishing off the job during free time.

Over the next several weeks, small groups of farmers did daily farm chores. Each day they brought their stories about finding eggs, petting, the animals, and questions about what to do with the eggs. Another class meeting was scheduled to decide the fate of the eggs, and after much discussion, a vote was taken. The majority decided that they should be hatched in our incubator.(Fortunately, we did have a rooster!) As farmers

collected eggs, they were instructed to record the date on each egg so that the class could calculate a probable hatching date. So the children learned about incubation, life, and death. The first chick popped out 21 days later, and subsequent chicks hatched about every other day. Some died, but most lived. By school's end, we had successfully hatched about a dozen chicks, which several children took home to raise during their vacations.

While this process was occurring so was "regular" school. the entire curriculum was touched by this project. The farmers of the day recorded their experiences in our Farm Journal each morning after doing chores. Now this journal contains drawings and writing from each child in our school and covers a wide spectrum of abilities. Many children chose to write about different aspects of the farm during their creative writing time. Experience is a great story starter.

The children's literature which relates to farms is extensive. I chose fiction and non-fiction books for the children to read and was able to find reading levels appropriate for every child. Rosie's Walk (Hutchins) was a favorite about a chicken walking through a barnyard and being followed by a fox. Each child using this book learned vocabulary words, story sequence, made up his/her own version of the story, and made a book that he/she could read. Family Farm (Locklear) is a book which deals with the realities of the hard life on a farm and contains sophisticated art work. The children were eager to discuss the difficulties and joys of farming after reading this book. Old folk tales such as the Little Red Hen, Chicken Little, and the Straw Ox became more meaningful to the children after the experiences on the "farm." See bibliography for

other farm related titles. For non-readers, there were Language Experience Stories which were developed easily by the children. They learned words of their own choice, improved their sequencing skills, and made their own illustrations for their books. Concentration and Bingo games were made using vocabulary from these child - generated stories.

We cooked often during this time, always using eggs from the "farm" in our recipes. Reactions were mixed when the children began to realize that we were eating the eggs from our farm. Many of the children were horrified that we were eating "baby chickens," while others realized that the chickens were helping us by laying eggs.

In math, the children learned that there are 12 in a dozen and were challenged to discover how many were in 2, 3, or more dozen. We made a big wall calendar, shaped like a chick, and recorded hatching dates. Next year I plan to have a small egg business and put the children in charge of marketing, sales, and advertising.

The children learned about incubation and the eggs' need for warmth, humidity, and rotation. They observed chicks as they hatched in the incubator and heard chicks peeping through the eggs shells. They became very protective of the eggs in the incubator, reminding each other to check the water level, temperature, and turn the eggs.

The curricular ripple effect of this project was endless and expandable beyond science, literature and mathematics. Just imagine a project from fleece to clothes.....

"Chickens across the curriculum" demonstrates the integration of subject matter around a central focus. The association of

concepts and hands on experiences yields understanding to and the beneficial effects of parents as co-teachers.

The entire building process took approximately one month to complete for a cost of under $50. Donations of labor and love made up the difference. The rewards of such a project are infinite and the determination, skills, and excitement of young children will amaze you. We invite to experience the benefits and excitement firsthand!

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